PATENT
Customer No. 22,852
Attorney Docket No. 2376.0006-04

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Continuation Reissue Application of Serial No.: 08/341,585	
Inventor: Michel Gondouin	Group Art Unit in Prior Application: 3625
Serial No.: Unassigned	Examiner in Prior Application: H. Dang
Filed: September 4, 2001	
For: DOWNHOLE EQUIPMENT, TOOLS AND ASSEMBLY PROCEDURES FOR THE DRILLING, TIE-IN AND COMPLETION OF VERTICAL CASED OIL WELLS CONNECTED TO LINER-EQUIPPED MULTIPLE DRAINHOLES	

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

Prior to the examination of the above application, please amend this application as follows:

IN THE ORIGINAL APPLICATION

Pursuant to the Decision of this Office dated October 8, 1999, granting Applicant's Petition for the original filing date in parent reissue application serial no. 08/861,457, please cancel pages 42-44 of application Serial No. 814,585, the original application leading to the '120 patent.

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

FILING DATE

Also pursuant to the Decision of this Office dated October 8, 1999, granting Applicant's Petition for the original filing date, please amend the INID code [22] as follows: [Filed: Jan. 4, 1993] Filed: Dec. 30, 1991.

IN THE SPECIFICATION

Please amend the specification as follows:

Col. 1, line 9, after "FIELD OF THE INVENTION" and before the first paragraph, insert the following paragraph:

This is a continuation of reissue application serial no. 08/861,457, filed on May 22, 1997, which is a reissue of U.S. Patent No. 5,462,120, which was accorded a filing date of December 30, 1991. Application serial nos. 09/824,736 and 09/871,813 are also continuations of reissue application serial no. 08/861,457 and are also pending.

Col. 3, lines 44-47, delete the paragraph "FIG. 3 is a vertical cross section of a special casing joint equipped with a drillable packer and retrievable whipstock for drilling and completion of the side-tracked hole of Case 3.";

Col. 4, lines 4-7, delete the paragraph "FIG. 6 is a schematic vertical cross section of a well and two drainholes, showing the various fluid levels in the reservoir.";

Replace the paragraph beginning at column 7, line 26, with the following:

> Case 3 includes a special casing joint equipped with a drillable packer and retrievable whipstock for drilling and completion of a side-tracked hole. In Case 3, a vertical well is drilled, with its lower 50 ft deviated at the angle required to kick-off a horizontal drainhole and oriented in the direction selected for the drainholes. A special casing string is made-up, run-in and cemented by known techniques into the vertical and deviated portions of the hole. It consists of a shoe, a float collar and a special casing joint, see FIGS. 3a-3c, [(FIG. 3)] located at a depth slightly above that of the start of the hole deviation. This casing

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

joint presents an elliptical window machined into the casing with a downward orientation of a few degrees from the vertical. [The] As previously shown in Fig. 1, the window (1) is again plugged off with a drillable plate (2) made, for instance, of a soft metal and shaped to generally conform with the casing surfaces. The plug is firmly attached to the casing by means of drillable fasteners [(29)]. Its orientation is also indicated by a vertical drillable key or grove (30) in the casing joint inner surface at or near its lower end.

Replace the paragraph beginning at column 8, line 21, with the following:

After the cement has set and the cementing string has been pulled out, the outer saw-tooth groves [(38)] of the whipstock are latched into an overshot tool equipped with a milling edge to drill out the elliptical collar (35) and the whipstock is pulled out. The supporting whipstock packer (31) is also drilled out and pulled out with the overshot milling tool, which also is equipped at its lower end with a suitable packer-latching device. These operations leave full openings in both the deviated casing and the side-tracked intermediate liner. Both of them provide a relatively large deviated casing and a slightly smaller liner to be used as the respective starting points of two drainholes, in the same way as in Case 2, but the drainhole diameters and that of their respective liners may be greater than that of Cases 1 or 2.

Replace the paragraph beginning at column 11, line 36 with the following:

In under-pressured reservoirs containing low GOR oil, reservoir energy may be insufficient to convey the production stream up to a pump or gas lift valve located above the kick-off points of the drainholes. The difference in elevation between such a pump and the fluids entry points in the horizontal part of the drainholes is greater than the drainholes radius of curvature, which may be up to 500 ft. In addition, there are significant friction pressure drops through the horizontal and curved portions of small-diameter liners, which may reduce the calculated net flowing fluid head at the pump [(49)] inlet to a value below the required minimum NPSH of the pump. This indicates that cavitation is likely to occur in the pump, with highly detrimental erosion effects and a reduced flowrate. To alleviate this problem, flow from each drainhole may be directed to an oil sump (50), with the pump taking suction at or near the bottom of the sump. <u>See FIG. 6b.</u> The top of the sump is closed by a packer (51) a short distance above the highest kick-off point. It constitutes the apex of a kind of syphon (see [FIG. 6] <u>FIG. 6b</u>) for each drainhole. For very low GOR oil, frequently present in under-pressured mature reservoirs, the flowing pressure at that point may still be well above the

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

bubble point of the production stream, so that the risk of cavitation and break-up of the de-celerating liquid stream at that point is much less than it would be in a pump at the same location. The flowing pressure at the apex, plus the liquid head in the sump, provide a pump suction pressure exceeding the minimum NPSH required, thus eliminating the risk of cavitation in the bottom pump.

IN THE DRAWINGS

Pursuant to the condition of the Decision of this Office dated October 8, 1999, granting Applicant's Petition for the original filing date, please cancel Figs. 3 and 6 of the drawings from this application, as shown in Figs 3 and 6 in the attached Request for Approval of Drawing Changes in which the figures are enclosed within brackets (in red on the attached drawing) and identified as "CANCELED" (again in red). By these changes to Figs. 3 and 6, Application does not intend to cancel Figs. 3a, 3b, 3c, 6a, or 6b.

Also, please amend Figs. 4 and 10 as indicated in the attached Request for Approval of Drawing Changes.

IN THE CLAIMS:

Please cancel claims 1-7. Add new application claims 8-14.

8. A lateral seal and control system comprising:

(a) a first borehole;

(b) a housing having a premachined window at a location where a second borehole, to extend from said first borehole, is to be formed; and

(c) a production pipe including a flange at an uphole end thereof, said flange being of larger dimension than said premachined window, said pipe being maintained substantially within said housing during run in and being movable from the run in position to a

deployed position wherein said flange is mated against the periphery of said premachined window.

9. A lateral seal and control system comprising:

(a) a first borehole;

(b) a housing having a premachined window at a location where a second borehole, to extend from said first borehole, is to be formed after said housing is run into the first borehole; and

(c) a production pipe including a flange at an uphole end thereof, said flange being of larger dimension than said premachined window, said pipe being maintained substantially within said housing during run in and being movable from the run in position to a deployed position, wherein said flange is mated and energized against said periphery of the premachined window.

10. The lateral seal and control system of claim 9 wherein said flange includes an elastomeric sealing element.

11. A method of sealing the intersection between a first borehole and a second borehole extending from said first borehole comprising the steps of:

running into the first borehole an assembly comprising a housing and a tubular member within said housing, said housing having a window and said tubular member including a flange at an uphole end thereof, said flange being of larger dimension than said window;

maintaining said tubular member substantially within said housing during run in; and

aligning said window of said housing with a position where the second borehole is to be formed and moving said tubular member from the run in position to a deployed position

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

wherein a portion of said tubular member extends through said window and outward of said housing and wherein said flange is mated against the periphery of said window.

12. The method of claim 11 wherein said flange includes an elastomeric sealing element.

13. A method of sealing the intersection between a first borehole and a second borehole extending from said first borehole comprising the steps of:

running into the first borehole an assembly comprising a housing and a tubular member within said housing, said housing having a window and said tubular member including a flange at an uphole end thereof, said flange being of larger dimension than said window;

maintaining said tubular member substantially within said housing during run in;

aligning said window of said housing with a position where the second borehole is to be formed and moving said tubular member from the run in position to a deployed position wherein said tubular member extends through said window and outward of said housing and wherein said flange is mated against the periphery of said window; and

urging said flange against the periphery of said window.

14. A method for sealing the junction between a branch wellbore and a parent wellbore comprising:

(a) drilling a parent wellbore;

(b) drilling a window and branch wellbore by placing a deflecting tool in the parent wellbore and running a drill string from the parent wellbore;

(c) running into the parent wellbore a tubular member having a flange at the uphole end thereof;

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

(d) deflecting said tubular member into the branch wellbore and urging the same downhole until said flange is in sealed contact with a periphery of said window; and

(e) removing the deflecting tool.

REMARKS

This is a continuation reissue application of application serial no. 08/861,457. In that application, Applicant was granted a filing date of December 30, 1991, by way of a Decision on Applicant's Petition for the original date, the Decision dated October 8, 1999. By the filing of this continuation application and by way of preliminary amendment, Applicant has amended the specification, drawings, filing date, and original application papers to conform with the Decision and its parent application. Applicant has also canceled original claims 1-7 because they are currently pending in the parent reissue application.

In addition, in this continuation reissue application, Applicant is presenting and pursuing claims 8-14 that are either copied from or correspond to claims in U.S. Patent No. 5,787,987.[1] In the parent reissue application, Applicant had presented similar claims and formally filed a request for interference with the '987 patent. In an Office Action of April 18, 2000, the Examiner rejected the claims in the parent application that were copied from or corresponded to claims in the '987 patent and therefore declined to declare an interference at that time. Some of the then pending reissue application claims were rejected under 35 U.S.C. § 112, while others were rejected as unpatentable over the prior art.

To simplify the issues and move prosecution forward more promptly, Applicant through this continuation reissue application is presenting claims, along with remarks in favor of the

[1] Accordingly, the status of all patent claims and claims added to this application is that original patent claims 1-7 have been canceled and claims 8-14 have been added to this reissue application and are pending.

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

claims. Once the Examiner concludes that the pending claims are supported by the specification and allowable over the prior art, Applicant will submit a formal request for interference. In that regard, Applicant respectfully requests that the Examiner notify Applicant's undersigned representative when the claims have been found to be allowable and in condition for a declaration of an interference, preferably through a telephone or a personal interview. As Applicant has previously advised the Patent Office, Applicant has a clear priority of invention over the '987 patent. In that regard, Applicant's filing date is December 30, 1991, while the filing date of the '987 patent is September 4, 1996.

In the parent reissue application, Applicant had sought an interference with the '987 patent based on then pending application claims 175-177, 198-204, and 210-212. As explained below, Applicant is no longer pursuing certain of those claims, has amended some of those claims, and respectfully traverses the rejection of other of those claims. Applicant respectfully submits that all of the claims now pending are in condition for allowance, subject to an interference with the '987 patent.

In the Office Action of April 18, 2000, in the parent reissue application, the Examiner rejected claims 175-177 and 210 as unpatentable over one or both of U.S. Patent Nos. 702,006 to Huffman and 2,270,476 to D'Audiffret et al. Applicant notes that claims 175-177 of the parent application were literal copies of claims 21-23 of the '987 patent and that claim 210 closely corresponded to independent claim 21 of the '987 patent. Thus, if the Examiner' s rejection is correct, then claims 21-23 of the '987 patent are invalid.

Applicant is not now presenting claims that copy or closely correspond to claims 21-23 of the '987 patent. Applicant, however, reserves the right to consider further the validity and patentability of claims 21-23 of the '987 patent. Applicant also reserves the right to pursue

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

claims that copy or correspond to claims 21-23 and again request that an interference be declared for those claims.

Claims 8-14 correspond generally to claims 198-204 previously presented in Applicant's parent reissue application. Specifically, claims 8 and 9 correspond to parent application claims 198 and 199, respectively. Claim 10 corresponds to prior application claim 202. Claim 11 corresponds to parent application claim 200. Claim 12 corresponds to parent application claim 203. Claim 13 corresponds to parent application claim 201. And claim 14 corresponds to parent application claim 204.

Claims 8-14 also correspond to claims 4-7, 20, and 27 of the '987 patent. Specifically, claims 8 and 11 correspond to '987 patent claim 4, but claim 11 is in method format. Claim 9 corresponds to '987 patent claim 5, and claim 13 corresponds to '987 patent claims 5-7 in method format. Claims 10 and 12 correspond to '987 patent claim 20, but claim 12 is in method format. And, claim 14 corresponds to '987 patent claim 27. While these claims are not identical to the corresponding claims of the '987 patent, Applicant submits that the respective claims are not patentably distinct.

In the Office Action of April 18, 2000, the Examiner did not reject any of parent application claims 198-204 as being unpatentable over the prior art. Thus, if the claims to this subject matter are found to overcome any § 112 issues, this case should be in condition for a declaration of interference.

In the Office Action of April 18, 2000, claims 198-204 were rejected under 35 U.S.C. § 251, based on the Examiner's view that the claims presented new matter added to the patent for which reissue is sought. Applicant does not agree with the rejection, as explained below. Applicant is submitting new claims 8-14, which as discussed above correspond to claims 198-

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

204. In certain instances, the pending claims do not include the identical language found in claims 198-204.

With respect to claims 198-203, the Examiner expressed the view that there is no embodiment in the original disclosure which has all of the limitations of these claims. The Examiner asserted that embodiments shown in Figures 4 and 10 meet the limitation of "said pipe being maintained substantially within said housing during run in" but does not have a first window having a periphery and second bore extending from the first borehole coextensive with the first window.

New independent claims 8, 9, 11, and 13, define that the window of the housing is placed at a position where the second borehole is to be formed. As shown in Figures 4 and 10 and described in the specification, Applicant discloses a lateral seal and control system having a first borehole and a housing having a window aligned with a position where the second borehole is to be formed, as claimed in claims 8, 9, 11, and 13. *See e.g.*, 8:49-58; 9:13-16; 16: 11-23; 45-49. Applicant further discloses a production pipe having a flange dimensioned larger than the premachined window, wherein the pipe is maintained within the housing during run in and is movable from the run in position to a deployed position wherein the flange is mated against the periphery of said premachined window, as claimed in claims 8, 9, 11, and 13. *See, e.g.*, 8:54-67; 9:1-3; 8-16. In addition, Applicant discloses energizing the flange against the periphery of the window, as further claimed in claim 9. *See, e.g.* 8:57-60; 9:8-9. Applicant, therefore, respectfully submits that claims 8, 9, 11, and 13 are fully supported by the reissue application under 35 U.S.C. § 251.

The Examiner did not provide any separate bases for the rejection of claims dependant from claims 198-201. Indeed, Applicant discloses an elastomeric sealing element on the flange

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

as claimed in corresponding claims 10 and 12. *See, e.g.*, 9:2-3; 16:17-23. Accordingly, Applicant submits that claims 10 and 12, which depend from claims 9 and 11, respectively, are supported by Applicant's disclosure.

With respect to parent application claim 204, the Examiner asserted that Applicant's original disclosure does not support steps "c" and "e," asserting that the deflecting tool is not removed as required by step "c" and that the liner is not "kicked" in the branch wellbore as claimed in step "e." Applicant does not agree with the Examiner's view. Nevertheless, in order to facilitate prosecution of this application, new claim 14 recites the step of removing the deflector after the tubular member has been deflected into branch wellbore. Moreover, while Applicant does not agree that its deflecting tool is not "kicked" into the branch borehole as that term is used in the '987 patent, claim 14 now more broadly claims that the liner is "deflected" into the branch borehole. Applicant's disclosure clearly supports this broader terminology.

Applicant's disclosure, therefore, fully supports claim 14. For example, Applicant discloses drilling a wellbore and drilling a window and a branch wellbore by placing a deflecting tool in the wellbore and running a drill string from the wellbore. *See, e.g.*, 7:33-36, 49-58; 8:49-65; 9:13-21; 16:17-23, 28-31. Applicant also discloses running tubular member having a flange into the wellbore and deflecting the tubular member into the branch wellbore. *See, e.g.*, 7:64-67; 8:1-5, 66-67; 9:1-3; 16:28-31. The tubular member is urged downhole until the flange is in sealed contact with the periphery of the window. *See, e.g.*, 8:1-1-5, 15-20 57-60; 9:8-10; 16:40-41. Applicant further discloses removing the deflecting tool. *See, e.g.*, 8:21-28; 9:13-15; 16:41-44. For these reasons, Applicant respectfully submits that claim 14 is supported by the reissue application under 35 U.S.C. § 251. Applicant further notes that cases 4 and 4a, *see* Figs. 4 and 10, also provide support for the invention of claim 14.

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

In the April 18, 2000, Office Action, claims 198-203 (and other claims) were rejected under 35 U.S.C. § 112, first paragraph "as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most clearly connected, to make and/or use the invention." According to the Examiner, these claims are either directly or indirectly related to the telescopic liner stub shown in Figs. 4 and 10. In that Office Action, the Examiner expressed the view that the liner stubs shown in the drawings cannot operate as disclosed in the specification or claimed. As result, the Examiner asserted that these claims are not enabled by the specification.

Applicant respectfully traversed the Examiner's argument of non-enablement in the parent application, and the Examiner withdrew that rejection. Applicant respectfully submits that prior claims 198-203, and new claims 8-13, are fully enabled by the original disclosure for the reasons argued and accepted by the Examiner in the parent application.

Applicant is also presenting proposed amendments to Figs. 4 and 10. These proposed amendments were discussed during an interview with the Examiner in the parent application and were accepted by the Examiner in that case. Applicant is formally submitting the proposed drawing changes in the accompanying Request for Approval of Drawing Changes. These drawings are the same as the drawings considered and accepted by the Examiner in the parent application. Applicant submits that these proposed drawings fully comply with the Office's Rules and the MPEP.

For the reasons stated above, Applicant requests an indication that the claimed subject matter is supported by Applicant's specification and is directed to patentable subject matter. Applicant is prepared to promptly file a formal request for interference, upon an indication of allowable subject matter. Again, Applicant requests that the Examiner notify the undersigned by

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

phone as soon as the examination of the claims is complete so that Applicant can file a request for interference and otherwise assist the Examiner in his consideration of that request.

Respectfully submitted,

Date: September 4, 2001

Kathleen A. Daley, Reg. No. 36,116

10490659 . 090401

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

PATENT
Customer No. 22,852
Attorney Docket No. 2376.0006-04

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Continuation Reissue Application of U.S. Patent No. 5,462,120:

Inventor: Michel Gondouin

Serial No.: Unassigned

Filed: August 29, 2001

For: DOWNHOLE EQUIPMENT, TOOLS AND ASSEMBLY PROCEDURES FOR THE DRILLING, TIE-IN AND COMPLETION OF VERTICAL CASED OIL WELLS CONNECTED TO LINER-EQUIPPED MULTIPLE DRAINHOLES

Group Art Unit in Prior Application: 3625

Examiner in Prior Application: H. Dang

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

REQUEST FOR APPROVAL OF DRAWING CHANGES

Pursuant to 37 C.F.R. § 1.121, Applicant requests approval of the attached drawing changes. Applicant has submitted these changes by way of a new sheet of drawings with Figs. 4 and 10 identified as amended. 37 C.F.R. § 1.121(b)(3)(i). Moreover, these drawings constitute a sketch in permanent ink and the proposed changes are shown in red. 37 C.F.R. § 1.121(b)(3)(ii).

Applicant also requests that Figs. 3 and 6 be canceled in total according to reissue practice. As M.P.E.P. § 1413 requires, the original Figs. 3 and 6 are enclosed within brackets (in red on the attached drawings) and identified as "CANCELED" (again in red).

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

Upon receiving approval of these drawings, Applicant will submit formal drawings.

Respectfully submitted,

Dated: September 4, 2001

By: _____

Kathleen A. Daley, Reg. No. 36116
Finnegan, Henderson, Farabow,
Garrett & Dunner, L.L.P.
1300 I Street, N.W.
Washington, D.C. 20005
(202) 408-4000

LAW OFFICES
NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
ASHINGTON, DC 20005
202-408-4000

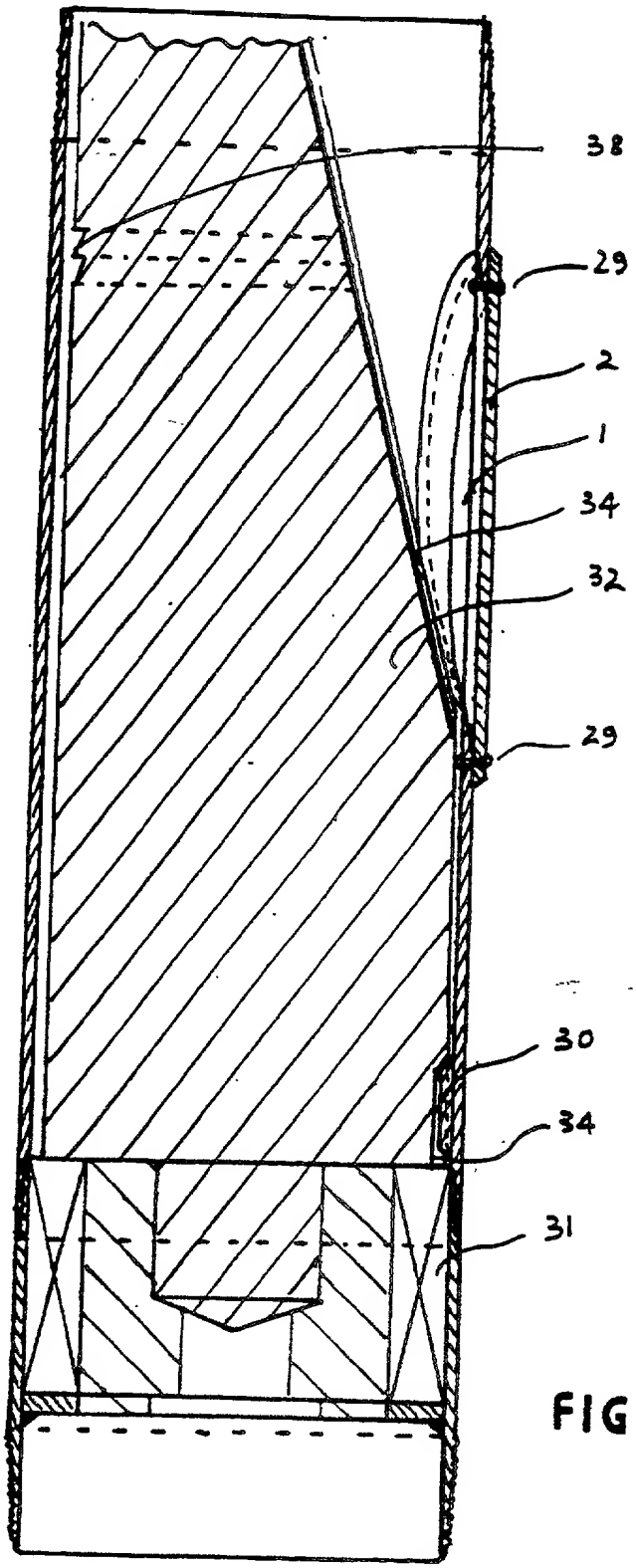


FIG. 3

(CANCELED)

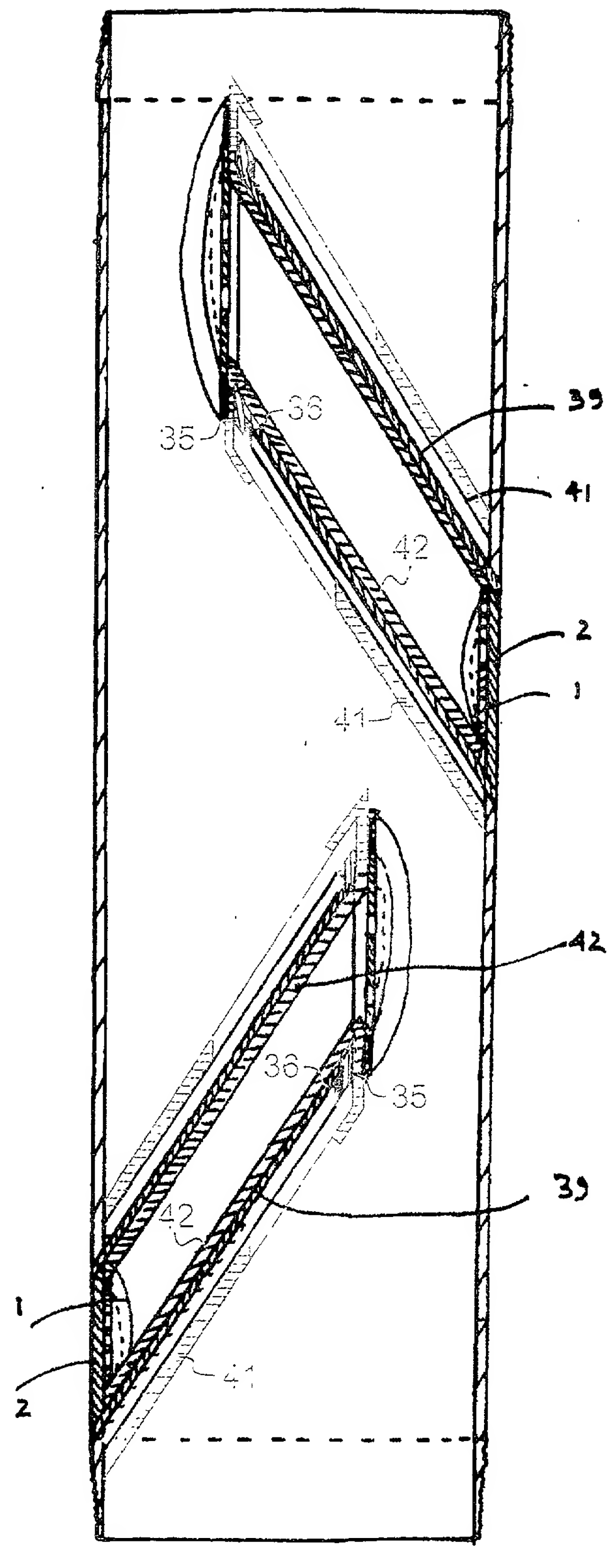
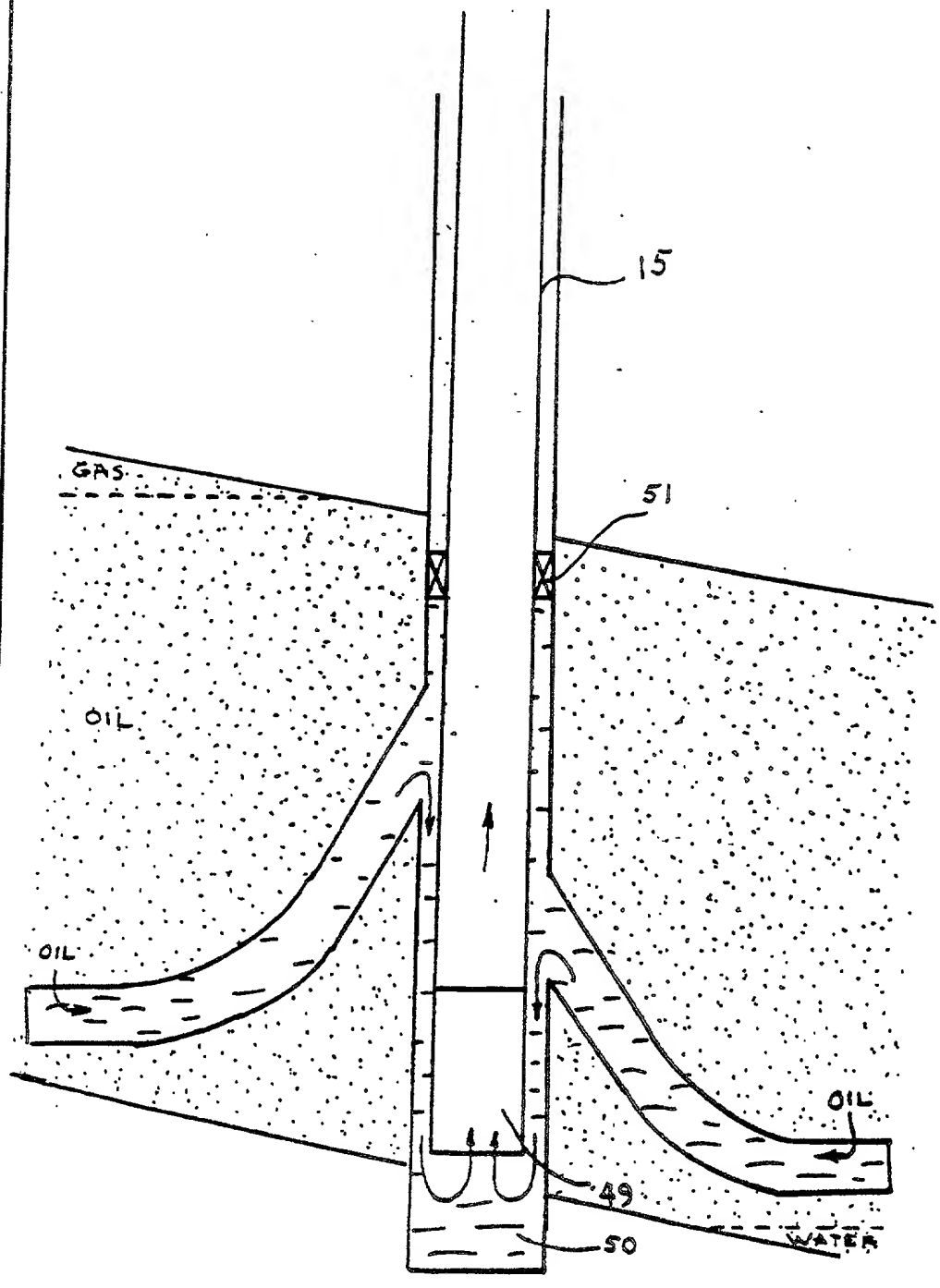


FIG.4



(CANCELED) FIG. 6

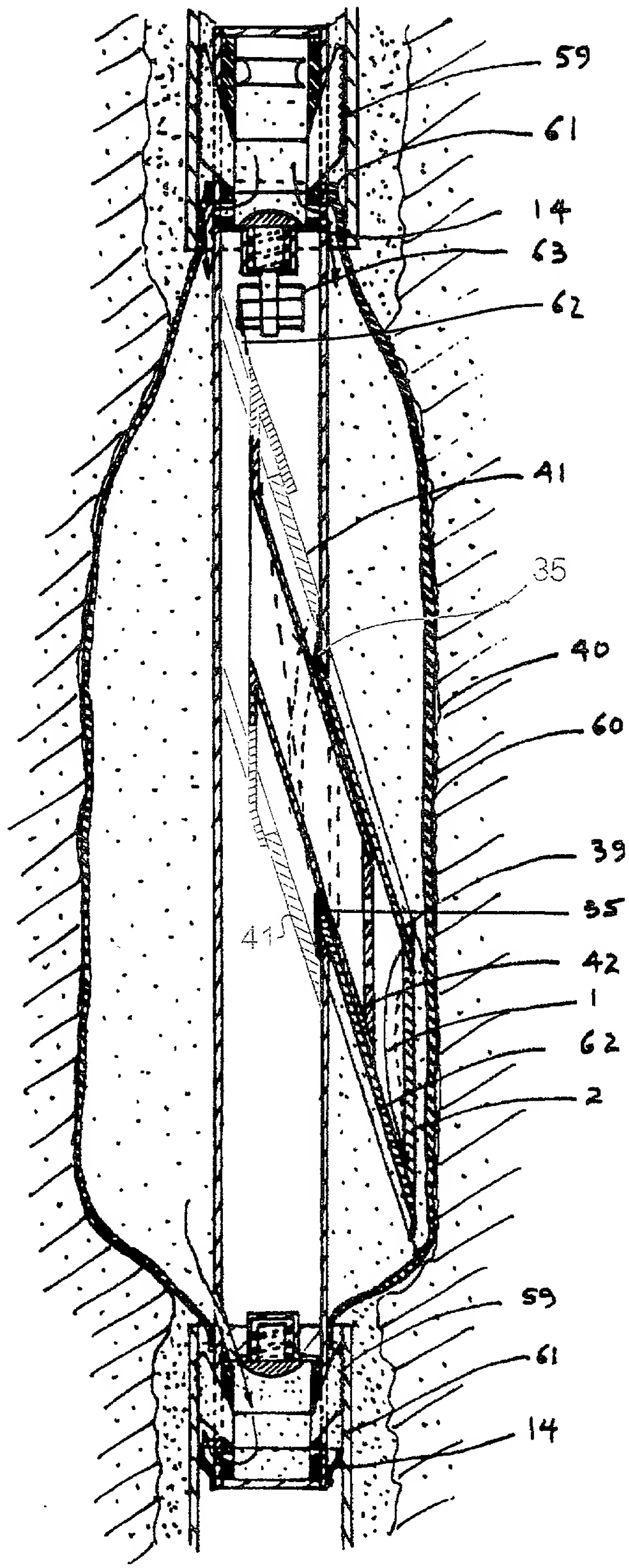


FIG.10